

19 Nov 73  
(DATE)

## MEMORANDUM FOR THE RECORD

SUBJECT: Opinion Request - *US-USSR Joint Working Group on Cooperation in the Field of Air Pollution Modeling - Instrumentation, and Measurement Methodology*

Attached is self-explanatory material from the Department of State.  
May we have your opinion by 3 Dec 73.

Please state degree of interest and whether we will receive requirements.

EB

(IIAGE)

MINUTES 17-23 Oct '73

## COMMENTS:

## DISTRIBUTION:

OCR ✓  
OSI ✓  
Ellie ✓  
AF ✓ *no obj*  
ARMY ✓  
NAVY ✓ *no reqs*  
DIA ✓  
ESS ✓

EX 77-73  
20 Dec 73

State Dept. declassification & release instructions on file

E2 IMPDET  
CL BY: 007622

Government, Air Pollution Modeling - Instrumentation and Measurement Methodology, US-USSR Joint Working Group on Cooperation in

CABLE SET DISSEM BY

PERSONS TO BE NOTIFIED

ADMIN INTERNAL USE ONLY

REPRODUCTION BY OTHER THAN  
ISSUING OFFICE IS PROHIBITED

STATE MESSAGE

1		4	
2		5	
3		6	

PAGE 01-01

NC 34972

STATSPEC

TOR:172319Z OCT 73

STATINTL

ZNR UUUUU ZOC STATE ZZH  
ESC532

STATINTL

ZNR UUUUU ZZH  
R 171256Z OCT 73  
FM AMEMBASSY MOSCOW  
TO ZEN/AMCONSUL LENINGRAD 852

STATINTL

BT  
UNCLAS MOSCOW 12914

E.O. 11652: N/A  
TAGS: SENV OTRA UR US  
SUBJ: US-USSR ENVIRONMENTAL AGREEMENT: VISIT OF US AIR POLLUTION  
MODELING WORKING GROUP

REF: STATE 186477

1. US AIR POLLUTION MODELING WORKING GROUP, HEADED BY DR.  
HERBERT L. WISSER, ACTING DEPUTY ASSISTANT ADMINISTRATOR FOR  
ENVIRONMENTAL SCIENCES, EPA, WILL BE IN LENINGRAD OCTOBER 17-24  
AND OCTOBER 26 FOR DISCUSSIONS WITH THE SOVIET WORKING GROUP  
HEADED BY DR. M.E. BERLYAND OF THE MAIN GEOPHYSICAL LABORATORY.

2. COMPLETE ROSTER OF US WORKING GROUP MEMBERS AND THEIR  
AFFILIATIONS IS LISTED IN REFTEL.

3. EMBASSY DOES NOT ANTICIPATE THAT THE US WORKING GROUP  
WILL REQUIRE ANY SPECIAL ASSISTANCE FROM THE CONSULATE  
GENERAL. DUBS

MINUTES

STATINTL

*Info any comment.*  
*Ray*  
of the Meeting of the US-USSR Experts of the Joint  
Working Group on Cooperation in the Field of  
Air Pollution Modeling, Instrumentation and Measurement  
Methodology

October 17-23, 1973. Leningrad

Main Geophysical Observatory.

In accordance with the US-USSR Agreement on Cooperation in the field of Environmental Protection signed in Moscow on May 23, 1972, and the Memorandum of Implementation of the above Agreement signed in Moscow on September 21, 1972, and the Minutes of the First Meeting of the US-USSR Joint Working Group on cooperation in the field of air pollution modeling, instrumentation and measurement methodology which took place in Washington on May 10-22, 1973, the meeting of the experts of this Working Group was held in Leningrad, October 13-23, 1973. The work was carried out in accordance with Appendix I.

The American delegation consisted of 7 persons and was headed by Dr. Herbert L. Wiser, the chairman of the American part of the joint Working Group, Deputy Assistant Administrator for Environmental Sciences Research, Environmental Protection Agency.

The Soviet delegation consisted of 8 persons and was headed by Prof. M.E. Berlyand, the chairman of the Soviet part of the Joint Working Group, Chief of the Department of Air Pollution Investigations, Main Geophysical Observatory, Hydrometeorological Service of the USSR.

The list of participants at the Meeting is attached (Appendix II)

Both American and Soviet specialists became acquainted with the research performed in the two countries. The discussions showed that in the USA and USSR investigations which were carried out complemented each other in many cases, but in other cases, different approaches were used towards solving similar problems.

The USSR has performed extensive field experiments for the validation of their theoretically developed modeling procedures, which has lead to a comprehensive methodology for estimating the pollution from point sources. The US has developed modeling techniques for incorporation of multiple point and area sources into urban models, including photochemical transformation processes. The US has developed many air pollution instruments which are being incorporated into automatic networks of pollutant measurement in urban areas.

Suggestions made by the US and USSR experts concerning joint efforts are as follows:

- 1) Exchange of specialists and literature,
- 2) Exchange and comparison of equipment and observation techniques, and
- 3) Cooperative investigations and special programs.

A preliminary program for cooperation during 1973-74 is attached as Appendix III, Supplements 1, 2, and 3. On the basis of the discussions and topics discussed here, both sides will present topics for future joint cooperative efforts at the second joint meeting.

This meeting of the experts of the US-USSR Joint Working Group on air pollution modeling, instrumentation, and measurement methodology was marked by a spirit of friendship and mutual understanding. The results of this meeting will contribute to the

-- 3 --

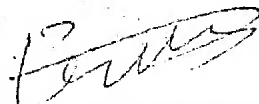
further development of cooperation between the two sides.

During the stay of the US experts in the Soviet Union, meetings and visits took place at the Main Administration of the Hydrometeorological Service of the USSR (Moscow), Main Geophysical Observatory (Leningrad), Sysin Institute of General and Communal Hygiene (Moscow), Central Hydromet Tower Observatory (Moscow), Erisman Moscow Scientific Research Institute of Hygiene, a laboratory of the Leningrad State University, the Transcaucasian Research Institute (Tbilisi), and the Main Administration of the Hydrometeorological Service of the Armenian SSR (Erevan).

These minutes were signed in Leningrad, October 23, 1973, in two languages, Russian and English, both texts being equally authentic.



Dr. Herbert L. Wiser  
Chairman, US Delegation



Prof. M. E. Berlyand  
Chairman, USSR Delegation

P R O G R A M

of the experts' conference of joint  
Soviet-American Working Group on Air Pollution Control,  
Modeling Methodology and Instrumentation

17-24 October 1973, Leningrad

Main Geophysical Observatory

Wednesday, October 17

11<sup>00</sup>-13<sup>00</sup>

Opening of the conference.

Salutary address of the Director  
of the Main Geophysical Observatory  
Prof. E. P. Borisenkov.

Presentation of delegates.

Discussion of the conference program.  
Fixation of time-limit and the  
working order.

14<sup>00</sup>-16<sup>00</sup>

Main principles of theoretical mo-  
deling of atmospheric diffusion.

(Prof. M. E. Berlyand)

Methods of calculation of pollutant  
distribution from single sources.

(Dr. R. I. Onicule)

Discussions.

Thursday, October 18.

10<sup>00</sup>-13<sup>00</sup>

Dispersion models in current use;  
model validation and applications.

(Prof. J. R. Mahoney)

Modeling methods of surface structure  
influence on pollutant dispersion  
in the atmosphere.

(Dr. I. M. Zrazhevsky)

The regional Air pollution Study  
and the regional Air Pollution  
study (RAPS) model.

(Dr. Fox)

Main principles of evaluation of  
maximum permissible concentration

15<sup>30</sup>-17<sup>30</sup>

Friday, October 19.

9<sup>30</sup>-13<sup>00</sup>

15<sup>00</sup>-17<sup>30</sup>

Monday, October 22.

10<sup>00</sup>-13<sup>00</sup>

(Prof. A. P. Shitskova, Prof. M. I. Gusev)  
Acquaintance with works of the  
Main Geophysical Observatory.

Examination of the computers.  
Visit to the laboratories of  
Department of Investigation of  
Atmospheric Diffusion. Visit to  
the sampling site.

Hygienic expertise of industrial  
enterprises projects.

(Dr. B. K. Baikov)

General discussion of meteorolo-  
gical modeling of small scales.

(Dr. Fox)

Study of meteorological and  
aerological characteristics of  
atmospheric diffusion.

(Dr. A. S. Zaitsev)

Discussions.

Photochemical smog in California  
and other places.

(Prof. Stephens)

Field studies of pollutant disper-  
sion from single sources.

(Dr. B. B. Goroshko)

Methods of chemical analysis of  
air samples under expeditional  
conditions.

(Dr. N. S. Volberg)

Experimental evaluation of pollu-  
tant dispersion calculation method  
(Prof. M. E. Berlyand, Dr. R. I. Onicule)

Discussions.

Measurement of atmospheric pol-  
lutants under field conditions.

Quality assessment in the  
United States.

(Dr. C. B. Hanson)

The St. Louis automated teleme-  
tered monitoring system.

(Dr. Ch. Copley)

Main principles of air pollution  
observational system. Methods of  
automatic analysis of harmful  
substances in the atmosphere.

(Dr. A. S. Zaitsev, Dr. N. S. Volberg)

Development of gas-analysers for  
principle pollutant measurements.

(Dr. B. A. Rilov, Dr. U. S. Pomerantsev)

Development of automatic air  
pollution control system.

(Dr. A. V. Primak)

Discussions.

Acquaintance with works of  
aerosol and gas chromatography  
laboratories of Leningrad  
University.

Visiting the Weather Information  
Center of Leningrad.

Modeling for atmospheric trans-  
formation of pollutants from  
mobile sources including aerosol  
formation and transport.

(Dr. D. H. Fox)

Discussion of additional themes.  
Study of air pollution by motor  
vehicles.

(N. S. Burenin)

Current studies of aerosols in  
polluted air.

(Dr. E. Stephens)

Investigation of aerosols and  
corrosion processes.

15<sup>00</sup> - 19<sup>00</sup>

Tuesday, October 23

10<sup>00</sup> - 13<sup>00</sup>



Experience with short time period forecasting of SO<sub>2</sub>.

(Prof. I. R. Mahoney)

Forecasting of the atmosphere pollution in the USSR.

(Dr. L. R. Son'kin)

Discussions.

15<sup>00</sup>-15<sup>30</sup>

Film "The meteorology and Air Pollution Control".

15<sup>30</sup>-19<sup>00</sup>

General discussion of the program of further collaboration.

Discussion of the drafts of concluding documents.

Discussion of the program and additional items for the conference of 1974.

Coordination of concluding documents.

Signing of the accepted documents.

Working Order

13<sup>00</sup>-15<sup>00</sup>

Lunch

10<sup>00</sup>-11<sup>20</sup>

Conference

11<sup>20</sup>-11<sup>40</sup>

Coffee-break

11<sup>40</sup>-13<sup>00</sup>

Conference

15<sup>00</sup>-16<sup>20</sup>

Conference

16<sup>20</sup>-16<sup>40</sup>

Coffee-break

16<sup>40</sup>-17<sup>30</sup>

Conference

Approved For Release 2001/08/27 : CIA-RDP79-00798A000800030022-3  
 Members of the Experts' Conference of Joint  
 US-USSR Working Group on Air Pollution Control  
 Modeling, Methodology and Instrumentation

A. MEMBERS OF US DELEGATION

Dr. Herbert L. Wiser	Head of US Delegation, Acting Deputy Assistant Administrator for Environmental Sciences, Environmental Protection Agency. Chairman of the American side, Joint Working Group on Air Pollution Modeling and Instrumentation.
George R. Morgan	Acting Director for Monitoring Systems, R & D, Environmental Protection Agency, Las Vegas, Nevada.
Dr. Edgar Stephens	Professor of Environmental Science, University of California-Riverside.
Dr. James R. Mahoney	Associate Professor of Meteorology, Harvard University.
Charles Copley	Commissioner, Division of Air Pollution Control, City of St. Louis.
Dr. Douglas Fox	Acting Chief, Model Development Branch, Meteorology Environmental Protection Agency.
David H. Strother	Office of International Activities, Environmental Protection Agency.

B. MEMBERS OF USSR DELEGATION

Prof. M.E. Berlyand	Head of USSR Delegation, Chief, Air Pollution Investigation Department, Main Geophysical Observatory Chairman of the Soviet Side, Joint Working Group on Air Pollution Modeling and Instrumentation.
---------------------	---

Dr. A.S. Zaitsev	Laboratory Chief, Main Geophysical Observatory.
Mr. Koznov S.P.	Director, North-West Administration Hydrometeorological Service.
Dr. Nazarov I.M.	Department Chief, Institute of Applied Geophysics.
Dr. Ogneva T.A.	Section Chief, Main Geophysical Observatory.
Dr. Petrov V.N.	Department Chief, Institute of Applied Geophysics.
Dr. Primak A.F.	Laboratory Chief, Institute of Thermo-Physics (Kiev)
Prof. Shitskova A.P.	Director, Moscow Research Institute of Hygiene.

C. PARTICIPANTS OF THE CONFERENCE

Dr. Baikov B.K.	Departement Chief, Moscow Reseach Institute of Hygiene
Mr. Bourenin N.S.	Assistant Chief of Expedition, Main Geophysical Observatory
Dr. Volberg N.S.	Senior Scientist, Main Geophysical Observatory
Dr. Gorochko B.B.	Senior Scientist, Main Geophysical Observatory
Prof. Gusev M.N.	Laboratory Chief, Moscow Reseach Institute of Hygiene
Dr. Zrajevski I.M.	Chief of Expedition, Main Geophysical Observatory
Dr. Onicul R.I.	Senior Scientist, Main Geophysical Observatory
Dr. Petrenchuk O.P.	Senior Scientist, Main Geophysical Observatory

Prof. Selezneva E.S.

Senior Scientist,  
Main Geophysical Observatory

Dr. Sonkin D.R.

Senior Scientist,  
Main Geophysical Observatory

MODELING SUPPLEMENT TO THE PROGRAM OF COOPERATION FOR 1973-1974

At this meeting of the US-USSR Joint Working Group, the Soviet Side has provided the American Side with "The Regulations on Calculating the Dispersion of Harmful Substances in the Atmosphere"... CH 369-67, and with the Trudy MGO, vyp.254, 1971, in which the papers on further development of these regulations are included. By January 1974 the American Side will present the papers on calculation methods used in the USA.

By February 1974 the American Side will present the results of field experiments on investigation of concentrations from industrial sources in Pennsylvania or the like, and the publications on expeditions to the area of Thermal Power Stations in the Tennessee Valley Authority.

By the 2nd meeting of the Working Group the American Side will:

- (1) prepare a report discussing soviet methods used for calculation of air pollution from single sources;
- (2) present a proposal for further development of US-USSR cooperation in 1974-75;
- (3) present a report discussing the methods used for wind tunnel modeling of the effect of ground obstacles on pollutant dispersion.
- (4) present some results of experimental investigations in St. Louis, namely distribution of  $SO_2$ , meteorological data and an inventory of sources emitting  $SO_2$ , both single and multiple;
- (5) prepare an annotated bibliography on mathematical models of carbon monoxide distribution in the urban environment;
- (6) prepare an annotated bibliography on methods of short-term forecasting of air pollution.

By the 2nd meeting of the Working Group the Soviet Side will:

Approved For Release 2001/08/27 : CIA-RDP79-00798A000800030022-3  
prepare a report discussing air pollution calculations with the help of methods used in the USA, which will be sent

(2) prepare a proposal for further development of US-USSR cooperation in 1974-75;

(3) prepare a proposal for a joint investigation to be carried out using the US wind tunnel studying of pollutant diffusion processes;

(4) prepare an annotated bibliography on urban pollution forecasting;

(5) prepare a report on air pollution calculations from line sources;

(6) on the basis of soviet models for calculating air pollution from multiple sources, to analyze the data from St. Louis, presented at the 2nd meeting of the Working Group.

III. Special topics. Supplement to the Program of Cooperation  
for 1973 - 1974

By the second meeting of the Working Group both sides will:

- (1) Exchange information on atmospheric chemical transformations and chemical modeling for integration into dispersion models. The US will supply a digest of chemical mechanism schemes as used in modeling for incorporation into dispersion models. The USSR will present a proposal for the integration of chemical mechanisms into USSR dispersion models.
- (2) Exchange annotated bibliographies as available on aerosol formation, physical and chemical transformation, and aerosol transport and measurement methodology with respect to air pollution.
- (3) Provide proposals to exchange information on the integration of air pollution modeling and measurement methodology with health effects and material damage effects for the purpose of setting standards to protect the health and welfare of mankind and his environment.
- (4) Provide proposals to investigate the relationships with other working groups.

Instrumentation and Measurement Methodology  
Supplement to the Program of Cooperation for  
1973-1974

At this meeting of the US-USSR Joint Working Group, the Soviet side has provided the American side with "Temporary Methodological Instructions on the Determination of Pollutant Content in the Atmosphere", Hydrometeoizdat, 1971. The American side has provided the Soviet side with "National Primary and Secondary Ambient Air Quality Standards for Sulfur Oxide; Federal Register, Vol. 38, No. 178-September 14, 1973". The American side will provide US Regulations for other pertinent air pollutants at the second meeting in Spring, 1974.

At the second joint meeting of the US-USSR Joint Working Group the two sides will:

- (1) exchange information relative to air sampling methods,
- (2) exchange operational instructions, instrument specifications, and other mutually agreed information relative to measurement methods for SO<sub>2</sub>, CO, and dust concentrations, and
- (3) present proposals for the joint comparison of ambient air measurements methods in operating monitoring networks.

Additionally:

- (1) The Soviet side will prepare proposals for the laboratory comparison of instruments to be used in the joint work in Leningrad and St. Louis.
- (2) The American side will present a proposal for the exchange of scientists for fulfilling the joint program.